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         Silver City, NM 88061
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EDUCATION

Doctor of Philosophy: Mathematics
December 1990
Old Dominion University
Norfolk, VA

Bachelor of Science: Physics
December 1981
Idaho State University
Pocatello, ID

PROFESSIONAL EXPERIENCE

Visiting Scientist
Summer 2000–Present
Theoretical Division
Group T–7: Mathematical Modeling & Analysis
Los Alamos National Laboratory

Tenured
Fall 2000–Present
Department of Mathematics & Computer Science
Western New Mexico University
Silver City, NM.

Associate Professor of Mathematics
Fall 1998–Present
Department of Mathematics & Computer Science
Western New Mexico University
Silver City, NM.

Assistant Professor of Mathematics
Fall 1996–Spring 1998
Department of Mathematics & Computer Science
Western New Mexico University
Silver City, NM.

Assistant Professor of Mathematics
Fall 1991–Spring 1996
Department of Mathematics & Computer Science
Northern Kentucky University
Highland Heights, KY.

Adjunct Professor of Mathematics
Spring 1991
Department of Mathematics & Statistics
Old Dominion University
Norfolk, VA.

REFEREED PUBLICATIONS

"Geometry of First Integrals for 2nd Order Difference Equations." To appear in the *Proceedings of the Fourth International Conference of Difference Equations and Applications.* (1999). Gordon and Breach Science.

"A Mathematical Model of a Discrete Nonlinear Oscillator." *New Developments in Difference Equations and Applications: Proceedings of the Third International Conference on Difference Equations.* pp. 17–24 (1999). Gordon and Breach Science.

"Global First Integrals for First Order Difference Equations," *J. Diff. Eq. and Appl.* **4**(1998), 523–532.

"First Integrals for Difference Equations." *Nonlinear Analysis, Theory, Methods & Applications.* Vol. 30, No. 2, 1191–1196 (1997). Elsevier Science Ltd.

"Applications of Lie Groups to First Order Difference Equations." *Advances in Difference Equations: Proceedings of the Second International Conference on Difference Equations and Applications.* August 7–11, 1995, pp. 55–66 (1997). Gordon and Breach Science.

"The Dynamics of the Linearized Implicit Euler Method in Solving Ordinary Differential Equations." *Proceedings of the First International Conference of Difference Equations.* May 25–28, 1994, pp. 29–39 (1995). Gordon and Breach Science.

"Vibrational Excitation of CO by Blackbody Radiation." NASA TM–87616

"A Method of Analysis of Blackbody Diatomic–Triatomic Lasers." NASA TM–87616

RESEARCH FELLOWSHIPS/GRANTS

Visiting Scientist: Los Alamos National Laboratory, Theoretical Division, Group T–7, Mathematical Modeling & Analysis (Summer 2000– Present).

NSF/CBMS Research Conference in the Mathematical Sciences: The Geometrical Study of Differential Equations. Howard University, Washington, DC. June 20–25, 2000

Western New Mexico University Faculty Research Grant (Spring 2000–Fall 2000).
Title: J–Invariant Functions & Global First Integrals.

School of Mathematics, Institute of Advanced Study: Arithmetic Algebraic Geometry. Princeton, NJ/Park City Mathematics Institute. Park City, UT. June 20–July 10, 1999.

NSF/CBMS Research Conference in the Mathematical Sciences: Ergodic Theory, Groups and Geometry. University of Minnesota, Minneapolis, MN. June 22–26, 1998.

Western New Mexico University Faculty Research Grant (Fall 1997–Fall 1998).
Title: Equivalence, Invariants and Symmetry.

NSF/CBMS Research Conference in the Mathematical Sciences: Numerical Analysis of Hamiltonian Differential Equations. Colorado School of Mines, Boulder, CO. June 2–6, 1997.

Western New Mexico University Faculty Research Grant (Fall 1996–Fall 1997).
Title: First Integrals for Difference Equations.

NSF Short Course: Henri Poincaré and the Origins of Chaos Theory. Harvard University, Cambridge, MA. June 16–18, 1994.

NASA–JOVE Fellowship at NASA Ames Research Center, Fluid Dynamics Division, Center for Turbulence Research (Summer 1993).

Northern Kentucky University Summer Fellowship (Summer 1992).
Title: Correspondence Principles Between Continuous and Discrete Models.

NSF/CBMS Conference on Nonlinear Waves & Weak Turbulence. Case Western Reserve University, Cleveland, OH. May 25–30, 1992.

NASA Langley Research Center with Miami University of Ohio and Old Dominion University, Summer 1985 to Spring 1991.

NASA Institute of Computational and Applied Mechanics, Departments of Mechanical Engineering and Mathematics, Old Dominion University, June 1985–May 1987.

INVITED LECTURES

"Construction of First Integrals for Difference Equations." World Congress of Nonlinear Analysts 2000, University of Catania, Sicily.

"First Integrals for Difference Equations." World Congress of Nonlinear Analysts 1996. University of Athens, Greece.

MAJOR PRESENTATIONS

"Geometry of First Integrals for 2nd Order Difference Equations." Fourth International Conference of Difference Equations and Applications. Polish Academy of Sciences, Poznan, Poland. August 27–31, 1998.

"A Mathematical Model of a Discrete Nonlinear Oscillator." Third International Conference of Difference Equations and Applications. Academia of Sinica, Taipei, Taiwan. September 1–5, 1997.

"Applications of Lie Groups to First Order Difference Equations." Second International Conference of Difference Equations and Applications. University of Veszprém, Veszprém, Hungary. August 1995.

"Lie Group Analysis of Nonstandard Finite Difference Equations." SIAM Conference on Dynamical Systems & Chaos. Snowbird, UT. May 23, 1995.

"Linearized Implicit Euler Method as a Dynamical System." First International Conference of Difference Equations and Applications. Trinity University, San Antonio, TX. May 24–28, 1994.

"A Reconciliation of the Logistic Differential and Difference Equations." Midwest–Southeastern Atlantic Joint Regional Conference on Differential Equations. University of Kentucky, Lexington, KY. November 13–15, 1992.

"Generalized Linear Multistep Methods." Joint Meeting of the American Mathematical Society and the Mathematical Association of America. San Francisco, CA. January 1991.

"On Solving Stiff Differential Equations." NASA Langley Research Center, Hampton, VA. June 1988.

"Numerical Schemes for Solving Stiff and Highly Oscillatory Differential Equations." NASA Langley Research Center, Hampton, VA. June 1987

"Systems of Quadratically Coupled Nonlinear Differential Equations." NASA Langley Research Center, Hampton, VA. June 1986.

"Differential Equations of Motion of an Electron in the Presence of an Uncharged Magnetic Monopole." Joint Meeting of the American Mathematical Society and the Mathematical Association of America. University of Utah, Salt Lake City, UT. Spring 1983.

MAJOR CONFERENCES/WORKSHOPS/SHORT COURSES

School of Mathematics, Institute of Advanced Study: Arithmetic Algebraic Geometry. Princeton, NJ/Park City Mathematics Institute. Park City, UT. June 20–July 10, 1999.

SIAM Conference on Applications of Dynamical Systems. Snowbird, UT. May 19–23, 1999.

Fourth International Conference of Difference Equations and Applications. Polish Academy of Sciences, Poznan, Poland. August 27–31, 1998.

NSF/CBMS Research Conference in the Mathematical Sciences: Ergodic Theory, Groups and Geometry. University of Minnesota, Minneapolis, MN. June 22–26, 1998.

Eighteenth Annual International Conference of the Center for Nonlinear Studies: Predictability: Quantifying Uncertainty in Models of Complex Phenomena. Los Alamos National Laboratory, Los Alamos, NM. May 11–15, 1998.

Third International Conference of Difference Equations and Applications. Academia of Sinica, Taipei, Taiwan. September 1–5, 1997.

NSF/CBMS Research Conference in the Mathematical Sciences: Numerical Analysis of Hamiltonian Differential Equations. Colorado School of Mines, Boulder, CO. June 2–6, 1997.

SIAM Conference on Applications of Dynamical Systems. Snowbird, UT. May 18–22, 1997.

Seventeenth Annual International Conference of the Center for Nonlinear Studies: Nonlinear Waves and Solitons in Physical Systems. Los Alamos National Laboratory, Los Alamos, NM. May 12–16, 1997.

World Congress of Nonlinear Analysts. University of Athens, Athens, Greece. July 10–17, 1996.

Sixteenth Annual International Conference of the Center for Nonlinear Studies: Landscape Paradigms in Physics and Biology. Los Alamos National Laboratory, Los Alamos, NM. May 13–17, 1996

Second International Conference of Difference Equations and Applications. University of Veszprém, Veszprém, Hungary. August 7–11, 1995.

Fifteenth Annual International Conference of the Center for Nonlinear Studies: Nonlinear Phenomena in Ocean Dynamics. Los Alamos National Laboratory, Los Alamos, NM. May 15–19, 1995.

SIAM Conference on Applications of Dynamical Systems. Snowbird, UT. May 21–24, 1995.

SIAM Short Course: Chaos: Theory and Numerics. Snowbird, UT. May 20, 1995.

Joint Meeting of the AMS and the MAA. Orlando, FL. January 1995.

NSF Short Course: Henri Poincaré and the Origins of Chaos Theory. Harvard University, Cambridge, MA. June 16–18, 1994.

First International Conference of Difference Equations and Applications. Trinity University, San Antonio, TX. May 24–28, 1994.

Fourteenth Annual International Conference of the Center for Nonlinear Studies: Quantum Complexity in Mesoscopic Systems: Los Alamos National Laboratory, Los Alamos, NM. May 16–20, 1994.

AMS Short Course: Complex Dynamics. Joint Meeting of the AMS and the MAA. Cincinnati, OH. January 10–11, 1994.

The Sir James Lighthill Lectures on Aeroacoustics. NASA Ames Research Center, Moffett Field, CA. August 4–6, 1993.

Thirteenth Annual International Conference of the Center for Nonlinear Studies: Modeling the Forces of Nature. Los Alamos National Laboratory, Los Alamos, NM. May 17–21, 1993.

Midwest–Southeastern Atlantic Joint Regional Conference on Differential Equations. University of Kentucky, Lexington, KY. November 13–15, 1992.

SIAM Conference on Applications of Dynamical Systems. Snowbird, UT. October 15–19, 1992.

NSF/CBMS Conference on Nonlinear Waves & Weak Turbulence. Case Western Reserve University, Cleveland, OH. May 25–30, 1992.

School of Mathematics: Institute of Advanced Study: Workshop on Fluid Dynamics, Turbulence and Statistical Physics. Princeton, NJ. March 21–27, 1992.

AMS Short Course: Chaos and Fractals. Joint Meeting of the AMS and the MAA, San Francisco, CA. January 1991.

Second Beamed Space–Power Workshop. Advanced Technology Research Laboratory, NASA Langley Research Center, Hampton, VA. February 28, 1989.

REVIEWS

"A Note on Bounded Sequences Satisfying a Linear Nonhomogeneous Difference Equation." Stević, S.. International . Fall 2001.

"On Invariance Factors and Invariance Vectors for Difference Equations." Van Horsen, W.. Journal of Difference Equations and Applications. Gordon and Breach Publishers, Fall 2001.

"Calculus, Premiere Edition." Minton & Smith. McGraw–Hill, Spring 2000.

"Algebra and Trigonometry with Analytic Geometry." Swokowski, E.. and Cole, J.. Brooks/ Cole Publishing Company, June 1999.

"Mathematical Modeling of a First Order Sigma–Delta–Modulator." Hoffman, A. and Marx, B.. Journal of Difference Equations and Applications. Gordon and Breach Publishers, Summer 1997.

"Relation Between the Time and Space Step–Sizes in Nonstandard Finite–Difference Schemes for the Fischer Equation." Mickens, R.. Numerical Methods for Partial Differential Equations. John Wiley & Sons, Spring 1996.

"Invitation to Dynamical Systems." Scheinerman, E.. PWS Publishing Company, March 1994.